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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,313	12/12/2003	Wei-Hou Chang	BHT-3106-301	9093

7590 03/04/2005
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EXAMINER

GRAYBILL, DAVID E

ART UNIT PAPER NUMBER

2822

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/733,313	Applicant(s) CHANG, WEI-HOU	
	Examiner David E. Graybill	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

The claims contains subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention. The undescribed subject matter is the language, "sintering the conductive paste covering each of the two electrodes of the ceramic capacitor and reducing the conductive paste into a reduced electrode selected from a silver and a copper electrode, such that a cross-section of the two electrodes is completely covered with the conductive paste at an outer edge."

To further clarify, one skilled in the art would not be able to make the invention, "sintering the conductive paste covering each of the two electrodes of the ceramic capacitor and reducing the conductive paste into a reduced electrode selected from a silver and a copper electrode, such that a cross-section of the two electrodes is completely covered with the conductive paste," because the phrase, "such that," indicates that the

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limitation, "a cross-section of the two electrodes is completely covered with the conductive paste," is a result of sintering and reducing the conductive paste. However, there would be no paste remaining after sintering and reducing the paste.

Claims 7-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The undescribed subject matter is the claim 7 limitation, "thicknesses between 0.8 mm and 15 mm," and the claim 13 limitation, "a drying step following the sintering step b), the drying step including drying the reduced electrodes of the ceramic capacitor."

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of claims 7-13 is unclear because the claim 7 limitations, "sintering the conductive paste covering each of the two electrodes of the

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ceramic capacitor and reducing the conductive paste into a reduced electrode selected from a silver and a copper electrode," and "such that a cross-section of the two electrodes is completely covered with the conductive paste," appear to be incompatible because the phrase, "such that," indicates that the limitation, "a cross-section of the two electrodes is completely covered with the conductive paste," is a result of sintering and reducing the conductive paste. However, there would be no paste remaining after sintering and reducing the paste.

In claims 8, 9 and 12, the scope of the term "cps" is unclear because the term appears to be given a meaning repugnant to its usual meaning.

In claim 9, the limitations, "the conductive paste is the conductive copper paste," and, "the conductive silver paste is completely applied to the cross-section of the two electrodes" are incompatible.

The scope of claim 13 is indeterminable because the limitation "a drying step" is incompatible with the limitations "following the sintering step," and, "including drying the reduced electrodes of the ceramic capacitor." To further clarify, a drying step cannot be performed after the sintering step, and the step of drying the reduced electrodes cannot be performed because there is no liquid in the reduced electrodes to enable a step of making the electrodes free of liquid after the sintering step. Indeed,

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in the specification, at page 5, lines 18-20, applicant discloses that the drying step is inherent in the sintering and reducing step: "The conductive paste covered electrodes of the ceramic capacitor 1 are subject to drying at 50-250°C for to reduce into silver or copper electrodes 5-120 minutes."

Claims 9 and 13 have not been rejected over the prior art because, in light of the 35 U.S.C. 112 rejections *supra*, there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of the claim; hence, it would not be proper to reject the claims on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims. Also see *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970) (if no reasonably definite meaning can be ascribed to certain claim language, the claim is indefinite, not obvious). See also MPEP 2143.03 and 2173.06.

In the rejections *infra*, generally, reference labels are recited only for the first recitation of identical claim elements.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Capek (3683469) and (JP11074145).

At column 1, lines 40-42; and column 3, line 6 to column 4, line 27, Capek discloses a manufacturing method for electrodes that inhibit a corona effect on a ceramic capacitor, which comprises the following steps: a) coating a surface of two electrodes 7', 8' of a ceramic capacitor with a conductive paste 7, 8 utilizing a printing process inherently under viscosity control, the conductive paste on the surfaces of the two electrodes of the ceramic capacitor have diameters and thicknesses between 0.8 mm and 15 mm "0.235 inch," and b) sintering the conductive paste covering each of the two electrodes of the ceramic capacitor and inherently reducing (by sintering) the conductive paste into a reduced electrode, such that a cross-section of the two electrodes is completely covered with the conductive paste at an outer edge and the corona effect is inhibited; wherein the sintering step b) is performed at a temperature between 150°C and 850°C; the conductive paste is completely applied to the cross-section of the two electrodes of the ceramic capacitor in a thickness between 1 µm and 50 µm.

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To further clarify the disclosure of utilizing a printing process inherently under viscosity control, Capek discloses a "metal paste screening" printing process with a particular paste, "No. 10361," and this paste has a particular controlled viscosity.

To further clarify the disclosure that the conductive paste is completely applied to the cross-section of the two electrodes of the ceramic capacitor in a thickness between 1 μm and 50 μm , as cited, Capek discloses that the total thickness of the paste is 0.235 in. Therefore, the paste has an interior thickness of 1 μm . Moreover, in Figures 2 and 3, Capek illustrates that the conductive paste is completely applied to a cross-section of the two electrodes.

However, Capek does not appear to explicitly disclose the conductive paste on the surfaces of the two electrodes of the ceramic capacitor have diameters between 3 mm and 30 mm, and the surface of each of the two electrodes of the ceramic capacitor has a thickness between 1 μm and 50 μm .

Notwithstanding, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose these particular dimensions because applicant has not disclosed that, in view of the applied

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prior art, the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Also, Capek does not appear to explicitly disclose silver paste having a viscosity between 10,000 cps and 200,000 cps; wherein the conductive paste has a viscosity between 8,000 cps and 150,000 cps.

Nonetheless, as cited, Capek discloses paste and metal paste screening techniques. Moreover, in the English abstract and Figures, JP11074145 discloses metal paste screening techniques using silver paste having the claimed viscosity. In addition, it would have been obvious to combine this disclosure of JP11074145 with the disclosure of Capek because it would facilitate the metal paste screening techniques of Capek.

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The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

For information on the status of this application applicant should check PAIR:

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.

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Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.
The fax phone number for group 2800 is (703) 872-9306.

A handwritten signature in black ink, appearing to read 'JH C ENX'.

David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
2-Mar-05